

REMARKS

Claims 1-2 and 4-5 are pending in this application, of which claim 1 has been amended.

Claims 3 and 6 are canceled. No new claims have been added.

The Examiner has indicated that SANADA, Yukitoshi: "Proposal of a Pulse Position Controlled DS-UWB System," 2002 Engineering Sciences Society Conference of IEICE; p. 105, A-5-9, August 2002, listed in the IDS filed June 5, 2006 will not be considered because it does not include a concise English translation of the relevant portions.

Sanada is not a proper reference under 35 U.S.C. § 102(b). **Sanada's** published date of August 20, 2002 is not more than one year prior to the filing date of the instant application, which is August 19, 2003, so **Sanada** is not a proper § 102(b) reference.

Sanada is also not a proper reference under 35 U.S.C. § 102(a). The author of **Sanada** and the inventor of the instant application are one and the same. *Ex parte Lemieux*, 115 USPQ 148 (POBA 1957) supports the proposition that nothing the applicant does, even if he invented abroad, can preclude him from getting a patent under 35 U.S.C. § 102(a). No printed publication that he has authored can be effective against him under § 102(a). Such an act, in order to be used against him, must have taken place "before the invention thereof by the applicant." The inventor could not have authored the printed publication before he knew of or made his invention. Thus, all that is needed is that the inventor demonstrate that he is the author of the printed publication. Because the inventor of the instant application and the author of **Sanada** are one and the same, **Sanada** is not a proper reference under 35 U.S.C. § 102(a), and the IDS should be considered

without the need for translating the relevant portions of Sanada.

The Examiner has required a new, more descriptive title.

Accordingly, the title has been amended to read: UWB TRANSMITTER INCLUDING AN ECHO DETECTOR.

The Examiner has objected to the Abstract for various informalities. Accordingly, attached herewith is a substitute sheet for the Abstract.

The Examiner has required that FIGS. 2a, 3 and 4 be labeled as "Prior Art." Accordingly, attached herewith are replacement drawing sheets for FIGS. 2a, 3 and 4 labeling these figures as "Prior Art."

The Examiner has objected to the drawings for failing to show the echo detector recited in the claims.

Applicants respectfully disagree. Claim 3 recites that correlator 9 shown in FIG. 1 functions as an echo detector.

Accordingly, claim 3 has been canceled and its limitations have been added to claim 1. Furthermore, new FIG. 5 has been added which shows both correlator 9 and echo detector 11 connected in parallel. The specification has been amended to include reference to FIG. 5 and to specifically disclose this feature, which is supported in the original disclosure by claim 4 and paragraph [0018] of the specification originally filed. Thus, no new matter has been added.

The Examiner has objected to claims 1 and 4 for various informalities which have been corrected in this response.

Claims 1-6 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Pages 5-7 of the Office Action describe how the following six claimed limitations are not shown in either of FIG. 2a or FIG. 2b:

1. Generating a pulse at the second chip period when generating a pulse of the same polarity as that of the immediately preceding pulse;
2. Generating a pulse at the first chip period when generating a pulse of the inverse polarity to that of the immediately preceding pulse;
3. Generating a pulse at the second chip period when generating a pulse of the same polarity as that of the immediately preceding pulse and generating a pulse at the first chip period when generating a pulse of the inverse polarity to that of the immediately preceding pulse where the echo detected by said echo detector has the same polarity;
4. Generating a pulse at the first chip period when generating a pulse of the same polarity as that of the immediately preceding pulse;
5. Generating a pulse at the second chip period when generating a pulse of the same inverse polarity to that of the immediately preceding pulse; and
6. Generating a pulse at the first chip period when generating a pulse of the same polarity as that of the immediately preceding pulse and generating a pulse at the second chip period when generating a pulse of the inverse polarity to that of the

immediately preceding pulse where the echo detected by said echo detector has the inverse polarity.

Among other things, the Examiner has indicated that an “immediately preceding pulse” is not shown in FIG. 2b, and that it is not clear whether the overlapped signal at $T_c/2$ is an amplitude adjustment or a pulse/echo of the same polarity. Furthermore, the Examiner has stated that, although paragraph [0042] of Sanada discloses a correlated output value (set of correlated pulses {1, 1, -1, -1} and {1, -1, -1, 1}), he does not see how this corresponds to FIG. 2b.

The Examiner has also complained that it is not clear in the specification or claims how the pulse generator performs these functions.

Accordingly, newly-labeled paragraphs [0040] -[0041] of the specification have been amended to provide support for the above enumerated limitations.

Thus, the 35 U.S.C. § 112, first paragraph, rejection should be withdrawn.

Claims 1-6 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

Accordingly, claim 1 has been amended to remove the noted instances of indefiniteness.

Thus, the 35 U.S.C. § 112, second paragraph, rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-2 and 4-5, as amended, are in condition for allowance, which action, at an early date, is requested.

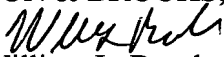
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. 10/643,148
Response to Office Action dated December 12, 2006

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Replacement Sheets of Drawings (FIGS. 2b, 3 and 4)
New FIG. 5
Substitute Abstract of the Disclosure (clean and marked-up versions)
Substitute Specification (clean and marked-up versions)
Petition for Extension of Time
Check in the amount of \$120.00

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{Title of Document} Abstract

{Abstract}

ABSTRACT

{Object} The present invention provides a UWB transmitter and receiver, the transmission rate of which is increased, and the SN ratio of which is improved. ~~{Solution Means}~~ By investigating the polarity of an echo at $1/2$ position of the chip period T_c , the chip period is shortened to $T_c/2$ where the polarity of the echo is the same and a pulse signal of the same polarity is continued, whereby it becomes possible to increase the transmission rate. ~~[[Since]]~~ Because the echo and the pulse signal are caused to overlap each other, the SN ratio can be improved.

{Selective Drawing} Fig. 2